

Introduction	Data Format	Data Linking	Data View	Graphing Data	Customizing Charts	Combining Elements
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**RIDE** Rhode Island  
Department  
of Education

# Visualizing Educational Data

Summer Data Manager Meeting  
August 24, 2021

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## 1. Data Format:

The data need to be in a format that Tableau can read. The best format is columns with field names and associated values. These data can be from different RIDE Databases and are usually student level data.

Disability Name	
Autism	2,671
Deaf-blindness	4
Developmental delay	2,986
Emotional disturbance	1,616
Hearing impairment	162
Intellectual disability	880
Multiple disabilities	442
Orthopedic impairment	42
Other health impairment	4,091
Specific learning disability	7,619
Speech or language impairment	3,935
Traumatic brain injury	55
Visual impairment	45
No Disability	121,813

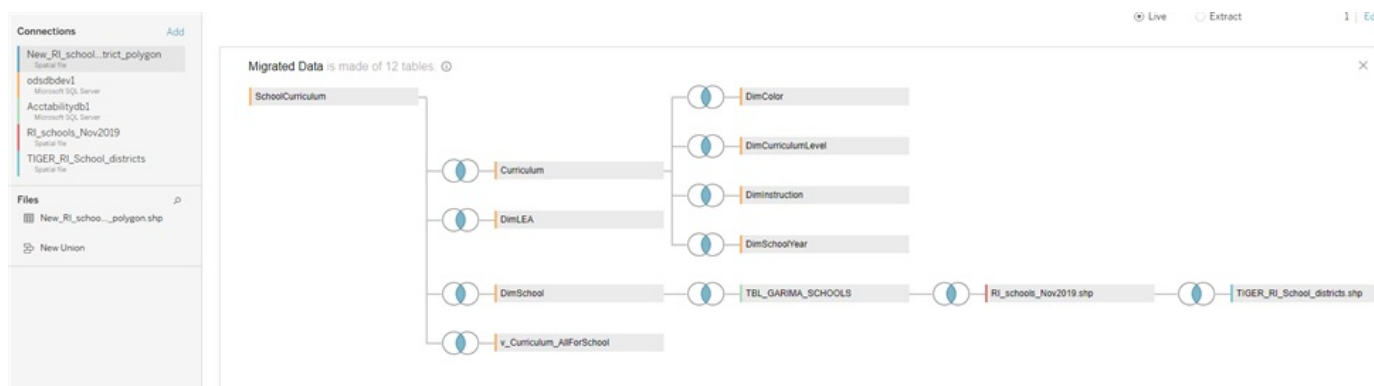
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## 2. Data Linking:

This is an example of how different RIDE data sets may be linked within Tableau.

Tableau can read a variety of data types (SQL databases, Excel, comma delimited files, even spatial data).

To simplify the data extraction for Tableau to use, often data "Views" are made for specific visualization projects.



3. Data View:

DATS staff (such as Betty Landry) will query the different RIDE databases to create a "view" that has only the fields necessary for the requested graphs, thus making it easier to graph. The creation of the "view" is a collaborative effort among DATS staff, the requesting program office, and/or stakeholders.

ODSDBDev1  
Microsoft SQL Server

Database  
ODAR\_DW

Table  
All 315 Recommended

Enter table name

v\_Assessme...aphics\_SAT

v\_Assessme...ics\_SATELA

v\_Assessm...s\_SATMath

v\_COVID\_H...ap\_By\_LEA

v\_CRDC

v\_Curriculu...llForSchool

v\_...medid...orSchool\_v...

v\_DASBlueprint

v\_DASBlueprint\_Disciplin...

v\_DASBlueP...Assessment

v\_DASBlueP...ationRates

v\_DASBlueP...Assessment

v\_DASBlueprint\_MLL

v\_DASBlue...EPrograms

v\_DASBlueP...NextYearKG

New Custom SQL

v\_DASBlueprint

Need mo

Drag tables here to rel

Sort fields

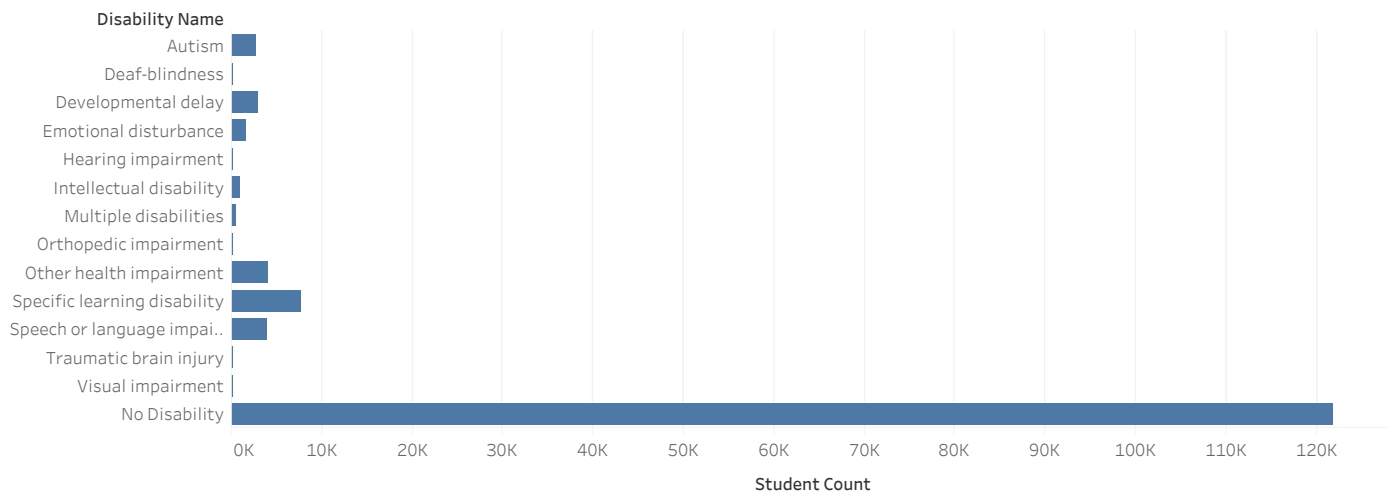
Data source order

Abc	Abc	Abc	Abc	Abc
v_DASBlueprint	v_DASBlueprint	v_DASBlueprint	v_DASBlueprint	v_DASBlueprint
SPED_LREGroup	SPED_LRE	SPED_LREDesc	SPED_DisabilityC...	SPED_DisabilityN...
SchoolAge	SS	Separate School	EMN	Emotional disturbanc
SchoolAge	RC80	Inside regular class 8...	AUT	Autism
SchoolAge	RC39	Inside regular class le...	MR	Intellectual disability
SchoolAge	RC80	Inside regular class 8...	SLD	Specific learning disa
SchoolAge	RC80	Inside regular class 8...	AUT	Autism
SchoolAge	CF	Correctional Facilities	OHI	Other health impairm
SchoolAge	RC80	Inside regular class 8...	SLD	Specific learning disa
SchoolAge	CF	Correctional Facilities	EMN	Emotional disturbanc
SchoolAge	CF	Correctional Facilities	EMN	Emotional disturbanc

#### 4. Graphing Data:

Once the data are either linked or queried in a view, they can be graphed.

To graph, a "Dimension" or categorical variable is selected, in this case "Disability Name" is put on "Rows" & a numerical field or "Measure" such as "Student Count" is put on the Columns to create a chart



5. Customizing Charts:  
Charts can be customized by adding filters, adding labels, editing axis-titles, and displaying data as a percentages. Data can also be dis-aggregated by other variables. Details can be viewed in the tooltip hover.

Race/Ethnicity

American Indian or Alaska Native

Asian

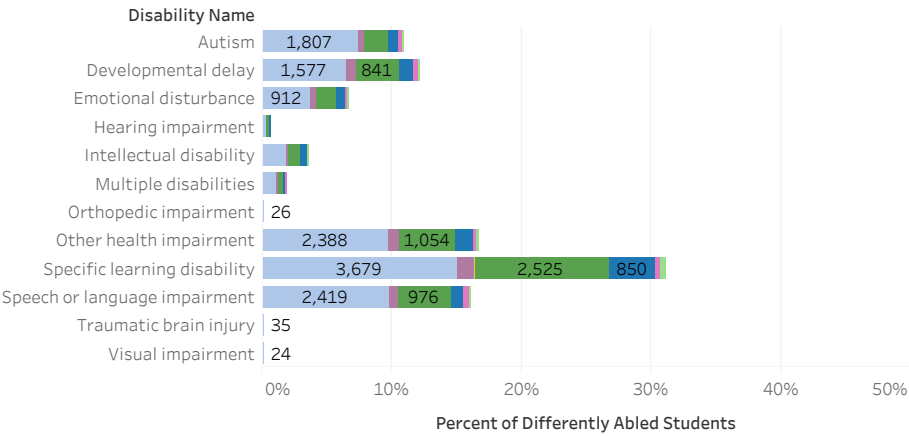
Black or African American

Hispanic

Native Hawaiian or Other Pacific Islander

Two or More Races

White



## 6. Combining Elements:

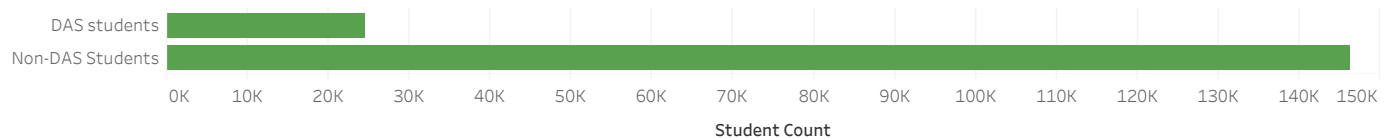
In Dashboards, you can combine different charts as well as other items such as images, logos, and text objects. A series of Dashboards can be combined into a Story.



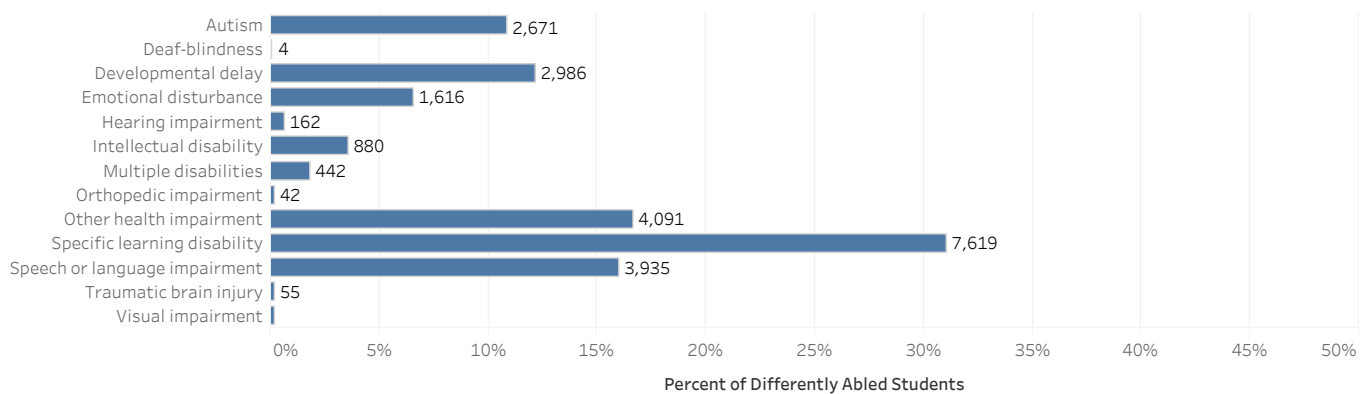
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### 2019-20, Differently Abled Students (DAS) Statewide (n=24,548)



2019-20, Differently Abled Students by disability (student counts after bars) NOTE: This includes all DAS students, including those in private schools and correctional facilities.



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## 7. Sharing Information:

Tableau Dashboards or Stories can be published to a website so others can view them.

The screenshot shows a Tableau dashboard interface. At the top, a dark navigation bar contains the breadcrumb 'Explore / External UAT / FINAL\_DAS\_BluePrint\_Meeting\_1 / FINAL\_DAS BluePrint Story Mtg 1' along with icons for search, help, and notifications. Below this is a light-colored toolbar with 'Undo', 'Redo', 'Revert', 'Refresh', and 'Pause' buttons, followed by 'View: Original', 'Share', 'Download', and 'Comments' options. The main content area has a title 'Differently Abled Students (DAS) Blueprint - Demographics' and a horizontal menu with six tabs: 'Introduction' (selected), 'Overview of Primary Disabilities', 'Overview by Grade Groups', 'Overview by Race/Ethnicity', 'Overview by Lunch Status, Statewide vs DAS', and 'Overview by MLL Status'. Below the menu is the RIDE Rhode Island Department of Education logo. The dashboard title 'Differently Abled Students (DAS) Summary' and subtitle 'Demographic Overview' are centered. A paragraph of text explains that the visualizations are from 2019-2020 and provides a note about viewing in full screen. The section 'Demographic Data' is partially visible at the bottom.

Explore / External UAT / FINAL\_DAS\_BluePrint\_Meeting\_1 / FINAL\_DAS BluePrint Story Mtg 1

Undo Redo Revert Refresh Pause View: Original Share Download Comments

### Differently Abled Students (DAS) Blueprint - Demographics

- Introduction
- Overview of Primary Disabilities
- Overview by Grade Groups
- Overview by Race/Ethnicity
- Overview by Lunch Status, Statewide vs DAS
- Overview by MLL Status

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## Differently Abled Students (DAS) Summary

### Demographic Overview

The Rhode Island Department of Education has made this set of visualizations available as part of its **Blueprint for Differently Abled Students (DAS)**. All visualizations contain data from 2019-2020 (grades K-12, except where noted). Please review the demographic and performance story points to find dashboard of interest. *Note: For best view, click "full screen" icon in lower right corner of screen.*

*Demographic Data*